CHAPTER 150. APPROVE TRAINING PROGRAM, CURRICULA, COURSEWARE, AND FLIGHT TRAINING EQUIPMENT FOR A TRAINING CENTER

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES: 1334, 1335, 1351, 1366, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1377, 1378, 1380, 1395, 1396, and 1397.

2. OBJECTIVE. The objective of this task is to determine if the overall training program of a training center applicant meets the requirements of the rule and is of acceptable content and detail. Successful outcome for the training program will result in issuing a training center certificate. Successful outcome for the evaluation of the curricula, courseware, and flight training equipment of the training program will result in the approval of the subject curriculum and the issuance or amendment of Training Specifications.

3. GENERAL.

A. Training Programs and Curriculums. A training program is the curriculums, courseware, facilities, flight training equipment, and personnel necessary to accomplish training objectives. It includes either a core curriculum, specialty curriculum, or both. A curriculum is a specific course of study, or collectively, all the courses of study at a training center that lead to certification, qualification, or both for an airman or crewmember.

(1) Core Curriculum.

(a) Description. A core curriculum is a FAA approved document that identifies the training and testing that will be conducted to meet the requirements for the issuance of an airman certificate. It is based on the Practical Test Standards (PTS), and, if applicable, the requirements of the Flight Standardization Board (FSB) Report. Each core curriculum is made up of training segments, which identify training and testing requirements for the issuance of that certificate. The core curriculum does not include training for tasks and circumstances unique to a training center client, such as equipment differences training. It may, however, include training for those specific tasks and circumstances as required by a certificated part 121 operator. With concurrence with the National Training Center Program Manager (NTCPM), the Training Center Program Manager (TCPM) approves a core curriculum.

NOTE: Figure 150-1 contains a sample core curriculum.

(b) Content. Proposed core curricula must contain the necessary training to meet the knowledge and skill requirements of all Areas of Operations of the applicable PTS and any additional special training emphasis areas recommended by FSB reports. FSB reports identify additional training requirements or limitations for types and variants within types of aircraft. These recommendations are consolidated in advisory circular (AC) 120-53, Crew Qualification and Pilot Type Rating Requirements for Transport Category Aircraft Operated Under FAR Part 121, but should be used for all aircraft regardless of size or rule part under which it will be operated.

(2) Specialty Curriculum. A specialty curriculum is an FAA-approved document that contains training that is unique to one or more training center client. Examples include: basic indoctrination, windshear flight training, long-range navigation, Category II/III authorization, or differences training. Specialty curricula are approved by the TCPM. To be used as a part of an air carrier's training program, a specialty curriculum must also be approved by the carrier's principal operations inspector (POI). A specialty curriculum does not require headquarters review.

(3) General Characteristics of a Curriculum. A curriculum should be structured as shown in Order 8400.10, Air Transportation Operations Inspector's Handbook, volume 3, chapter 2. Terms and definitions should be the same as those used in Order 8400.10, 14 CFR part 142, and Order 8700.1, volume 2, chapter 148. All curricula should:

(a) Use proper terminology and definitions from FAA references. Common errors include using the terms fixed-base simulator (FBS), Full Flight

Simulator (FFS), and suggestions that a machine not evaluated and qualified by FAA is a flight simulator or a flight training device (FTD). A FTD or flight simulator, depending on its level, may be qualified for certain tasks as indicated in appendix 1 to each PTS. Allowing any credit for a machine only called a FBS is not authorized as it would lead to confusion about which level of FTD will be used. Similarly, there are 4 levels of flight simulators, A through D. Each has motion and, depending upon what definition the user of that term might apply, each is likely to be a full flight simulator. Without specific nomenclature, it is not possible to determine if a training center applicant proposes to use a level of flight simulator appropriate to training or testing the task for which its use is proposed.

(b) State a specific training objective. The objective should support the expected outcomes. This objective should also state who is to be trained, to what level, and to satisfy what regulatory requirement. It should also state if there is a testing segment. Common errors include:

i. Stating as an objective, completion of a practical test for a second-in-command (SIC) in a type rating course. There is none required to satisfy 14 CFR part 61 § 61.55. The SIC proficiency check requirement of 14 CFR part 121 § 121.441 is distinct, and is not a practical test that leads to a certification action.

ii. Not listing as an objective a practical testing segment at all, such as for a specialty curriculum to satisfy the requirements of 14 CFR part 61 § 61.67 or 61.68 for Category (CAT) II or CAT III qualification.

iii. Stating that the curriculum is to certify a pilot-in-command (PIC), a SIC (who receives no certification), and a flight engineer. The subject matter is different for each of those duty positions (applicants) and the prerequisites for entry are different.

iv. Omitting as an objective, the attainment of an unlimited multiengine class rating, for those students who do not have one (airplane only).

(c) State clearly the student prerequisites for entry into the curriculum. The recordkeeping should show determination of meeting the prerequisites and document that prerequisites were met. One common mistake is overlooking the applicants need for an unlimited multiengine class rating before attempting to enroll in a 100% simulator course for a type rating that does not include a supplemental segment or module(s) to address that rating.

(d) Avoid intermingling specific requirements with generic requirements. For example:

i. Windshear. Windshear training is required under parts 135 and 121 only. Although it might be a good training for other operators, it would be optional to a training segment.

ii. AFM weight and balance with proprietary weight and balance.

iii. Dispatcher or Flight Release Procedures. These are required only for part 121 students. In fact, applicants in other programs will be denied outside help in flight planning during the practical test.

iv. Pushback. Other than part 121, most operators do not use a gate, gate procedures, or push back. However, many will use power-back, and this task should be taught.

v. Teaching courseware not available to the user. Teaching students to use computerized, tabulated, radio inquiry, or other programs not available to the student upon leaving the training center should not be done. It could cause the student to have inadequate knowledge of the task during practical testing or upon leaving the training center. Examples of curriculum courseware to avoid are: proprietary weight and balance procedures; performance figures; minimum equipment lists that feature a call to a proprietary maintenance base to determine impact of an inoperative component; and use of a dispatch service not available to the student once he or she leaves the training center.

vi. Gate calls, in-range calls, and so on, which are peculiar to an air carrier operator flying to and from only certain airports.

(e) Ensure that all required training is included. For example:

i. Applicants for type ratings in airplanes pressurized for high altitude, and those capable of high altitude that are not grandfathered under of 14 CFR § 61.31(g). A growing number of persons will have to meet the requirements of this section as a prerequisite; or, the curriculum will have to have a supplemental module(s) or segment to satisfy the requirement.

ii. Private and commercial pilot applicants for an airplane type rating who do not hold

an unlimited multiengine class rating must complete the supplemental module(s) or curriculum segment to satisfy that requirement.

iii. Applicants must complete all required areas of operation and tasks listed in the PTS, except as specifically waived for certain air carrier student crews. Common omissions include: a circling approach; landing from a circling approach; no flap landing when not excepted by the FSB report (see conditions in the note to Area of Operation VI, task F in the PTS); and engine failure between V1 and V2.

(f) Include enough programmed time to include demonstration of all systems, training and practice in the use of all systems, and training and practice in all tasks and maneuvers required by the PTS. The following factors must be addressed:

i. For 100% simulator curricula in large and turbine-powered aircraft, this should include at least 15 hours of programmed flight time for the simplest aircraft type for which a flight simulator has been qualified. At the discretion of the TCPM, more programmed hours may be required for more complex aircraft, and less programmed hours may be required for smaller and less complex aircraft, i.e., single engine and non-turbo aircraft.

ii. Pilot-Not-Flying (PNF) time may be credited except for Line-Oriented Flight Training (LOFT), if the curriculum has a LOFT.

iii. Time spent completing or attempting to complete a practical test does not count toward the minimum programmed time.

iv. The minimum programmed flight time (15 hours) for 100% simulator curricula must be in a Level C or D simulator; programmed hours in excess of the minimum may be accomplished in another level of FTD, if approved.

v. Curriculum developers should use the national norms, as published in FAA Order 8400.10, for determining the number of training hours in the ground school segment. With mixed classroom training the most restricted norm will apply.

(g) Avoid using the briefing time preceding a simulator session, or following a simulator session as programmed instruction time. A legal interpretation of § 142.49(c)(1), dated August 27, 1999, ruled in part that: restricting instructors to, "no more than 8 hours of instruction in any 24-consecutive hour period," is interpreted to apply only to flight instructors, flight simulator instructors, and FTD instructors while instructing in an aircraft, a flight simulator, a FTD, or any combination thereof. Consequently, instruction time has an impact on the maximum duty time per day for an instructor, but the briefing and debriefing do not. According to accepted definitions, a brief, contrasted to a lesson, has the general characteristics of:

i. Conciseness or intensity, as opposed to short, which may infer incompleteness.

ii. A synopsis or summary.

iii. An outline.

iv. An abstract or abridgment of a subject.

v. Giving final precise instructions.

(h) Only include elements, events, or modules required for that objective, i.e., there is no testing module for SIC qualification to satisfy 14 CFR § 61.55, and except for CAT II and CAT III specialty courses 100 foot decision heights are not required.

(i) Except for air carrier contract training approved by the carrier's POI, do not show a LOFT module (or any other segment or module) following a successful practical test. TCPMs should be aware of the following:

i. Following a practical test, there is no regulatory requirement for further training or testing until one year later for a type-rated aircraft, or two years for aircraft with no type rating.

ii. When LOFT precedes the practical test, it is suitable as a simulator flight training module of the flight training curriculum segment.

iii. With the approval of the POI, an air carrier may include a LOFT instead of having it as part of post-certification qualification training.

iv. Proficiency training, supplemental training, or practice not required by the FAA to satisfy any section of 14 CFR is not subject to expenditure of FAA resources for review and approval.

NOTE: It is not unusual for an applicant seeking an ATP or type rating to enroll in an approved 142 training course with a LOFT session that is performed following the conduct of the ATP PTS. This would commonly occur at a training center that was primarily designed to meet 135 or 121 requirements. Applicants have actually left training with an ATP certificate, without completing the LOFT (a

part of the centers approved part 142 course), and with no time in the airplane. The confusion arises when the course completion depends on the completion of the LOFT as a part of that training centers approved course. For 100% simulator time, 14 CFR part 61, § 61.157 (g)(2) requires the completion of the entire approved part 142 course (in this case including the LOFT). Reference: 14 CFR part 61, § 61.157 (g) and part 142, § 142.65.

(j) For all 100% simulator training and testing curricula, include either a LOFT or one or more modules that simulate actual in-flight conditions from start to finish. This applies to any curriculum which does not require the applicant to go to the aircraft for a substantial portion of the training and testing.

(k) Include the circling approach maneuver. Applicants may not simply choose to eliminate circling approaches. The performance of the circling approach maneuver may be excluded from training only under the following conditions:

i. Aircrew employees who complete initial Airline Transport Pilot (ATP) certification and initial type ratings under an air carrier employer's approved program. The certificate must be limited as prescribed in the ATP PTSs.

ii. PIC proficiency checks IAW 14 CFR § 61.58, whenever the simulator is incapable of accomplishing any circling approaches. A training record entry must be recorded and the pilot must demonstrate proficiency in each omitted maneuver in an appropriately approved qualified simulator or aircraft (14 CFR § 61.58).

(l) For part 121 and 135 operators, clearly distinguish differences training in type rating and ATP with type rating curricula.

i. Differences training is not required of all students. A student may enroll in a curriculum for, and obtain a type rating in a flight simulator replicating any variant of an aircraft of that type aircraft.

ii. An applicant may be expected to operate and use each piece of installed equipment during the practical test on the simulator, just as he or she would be expected to use all installed equipment on an aircraft presented for a practical test.

iii. A student enrolled in a type rating curriculum with expectation of operating a different variant of that type aircraft, must train and test in the same variant as the one to be operated, or complete satisfactory differences training. While training on the proper variant is the oversight responsibility of the operator's POI, TCPMs will be asked to approve generic curriculums which can be submitted for acceptance by operators and POIs. Some may be submitted as a generic starting point for an operator to develop its own training curriculum for presentation under contract by the training center in question. Generic curricula which need to be changed by the air carrier, or the air carrier's POI, are no longer generic but are operator specific. In any case, once accepted, the operator becomes responsible for the training program and subject to POI approval and oversight.

iv. Each curriculum should identify the differences between variants, and how they will be addressed, if the curriculum is to satisfy training requirements of different variants. Variants are identified as follows:

1. A variant is an aircraft or a group of aircraft with the same characteristics that have pertinent differences from a base aircraft. Pertinent differences are those which require different or additional flightcrew knowledge, skills, and/or abilities that affect flight safety. When crewmembers routinely fly variants, or when a variant or different type aircraft is flown occasionally between proficiency training or checks, it is still a variant and it requires an operator differences requirements (ODR) approval.

2. When variants are flown in mixed fleets, FAA approval is required, and operators shall comply with master differences program requirements (MDPR) and other related FSB differences provisions. Operators accomplish this by identifying a base aircraft, describing differences which exist between their base aircraft and variants, and by specifying particular means of compliance to satisfy MDPRs. The description of specific differences and compliance methods are identified as that air carrier's ODR. ODRs constitute the approval basis for an operator's mixed fleet flying program and specify any necessary constraints or permissible credits. Constraints or credits may relate to knowledge, skills, devices, simulators, maneuvers, checks, currency, or any other such factors necessary for safe operations. Constraints or credits may be applied generally, or only to specific variants or crew positions. Once approved, operator programs are conducted in accordance with these ODRs. ODR proposals are provided to the FAA in a standard tabular format and are approved by FAA principal inspectors only if they meet MDR and other pertinent FSB requirements. ODRs are amended by the operator as

base aircraft, variants, training devices, or as other pertinent factors change. Each amendment is approved by the FAA.

v. Some of the methods for addressing differences through the curriculum development are as follows:

1. Change or add elements or events in the modules of the core curriculum and clearly identify and account for these changes in the programmed times;

2. Add one or more modules to a curriculum segment of the core curriculum, and allow for that module in the programmed times; or

3. Create a separate specialty curriculum, and address in the curriculum objective statement the limitation of the core curriculum to a particular variant or variants.

(m) Clearly indicate if home study is part of the curriculum, and if so, show details in a home study curriculum segment, modules, events, and elements.

(n) Syllabus. A syllabus is accepted, rather than approved, by the Administrator.

(o) Revisions. Each approved curriculum must be supported by a revision system that includes:

- Additions and removals
- Margin side-bars that mark changed areas
- The revision date on each revised page

NOTE: Except when required sooner for safety reasons, operators should be encouraged to submit revisions on a regular revision cycle (i.e., 60 days between submissions.) At a minimum, the operator should submit revisions 60 days in advance of the expected implementation date.

B. Home Study Curriculum Segments or Modules.

(1) Definition. In this chapter the term home study refers to a learning method in which a trainee works at his or her own pace, without the aid of an instructor, to master predetermined material. Terms such as individualized instruction, student-centered learning, prescriptive learning, self-directed learning, even computer-based training, are often considered synonymous with home study.

NOTE: Home study courses are not to be used for any flight training or 121 or 135 air carrier Basic Indoctrination, Initial, Transition, or Upgrade Training.

(2) Requirements.

(a) Only cognitive or knowledge-based training is eligible for consideration as home study.

(b) No more than 50%, not to exceed 8 hours of the approved training program's classroom training hours can be initially accomplished through home study. After the home study module has been in place for a period of 24 months, the operator may request additional hours of home study, not to exceed 50% of the training program. The guidelines for evaluating air carrier and other training programs using home study as a substitute for classroom training are found in the latest version of Order 8400.1, volume 3, chapter 1, section 2. Home study curriculum segments or modules approved as of this revision date need not comply with these minimums. The FAA will evaluate any new requests using these guidelines.

(c) Each training center using home study must provide the student with all the materials necessary for completing the home study curriculum at least 30 days prior to the student's scheduled arrival at the training center.

(d) Each training center or training center applicant seeking approval for a home study curriculum segment or module must present entrance examinations for approval. The approved exams must be administered during the admission process and proctored by persons designated by the training center. Criteria for the exams are:

i. All exams require a minimum uncorrected passing score of 80%;

ii. Five different versions of the examination must be available for testing unless test questions can be randomly selected from an approved pool of potential questions;

iii. Multiple choice, fill-in-the-blank, short answer, essay, and matching items testing are all acceptable testing methods;

iv. True or false questions are discouraged; and

v. Examinations may not be conducted as take-home examinations.

(e) Students not meeting a minimum score of 80% on this home study course must accomplish the entire ground-school.

(f) Each training center with home study approval must maintain records that show:

i. The effectiveness of the home study.

ii. The version of the exam.

iii. The student responsiveness.

C. Courseware.

(1) Pictorial Courseware for Preflight Training, Checking and Testing. In order to conduct 100% training, testing, and checking curricula, a training center must have approved pictorial courseware for each curriculum in which it is used for preflight instructing, checking, or testing. Pictorial courseware for preflight training, checking, and testing must be approved by the TCPM. For tracking purposes, TCPMs should require pictorial courseware to be identified with a control number to which approvals are tied. In addition to Exemption 4901, which is specific to flight engineer certification requirements for pictorials, the following guidance for pictorial courseware shall apply:

(a) Strategy for Use of Pictorial Courseware. The strategies for training are different from the strategies for checking and testing when using pictorial courseware. The optimum training results will be achieved through the use of videotape, interactive computer-based instruction, and pictorial displays (i.e., pamphlets and murals). To allow for positive learning transfer, the trainee should view preflight items in the same configurations as they would be viewed when using a static airplane. However, it is also beneficial to discuss abnormal conditions in training. As for checking and testing, slides are the most effective pictorial courseware. When used during checking and testing, pictorials should include abnormal conditions in a sufficient number to permit a reliable evaluation of the applicant's preflight ability.

(b) General Characteristics. The following are desirable characteristics of pictorial means courseware:

i. A sufficient number of pictures to portray the location and detail of preflight inspection items.

ii. Capability for random, rapid access to any picture.

iii. Still and motion pictures.

iv. Distant and close-up pictures.

v. Pictures of each passenger compartment and each preflight inspection item.

vi. Depiction of normal and abnormal conditions.

vii. Sequence of pictures should match the sequence of the preflight inspection.

viii. Incorporation of models, mock ups, components, cutaways, and expanded views.

(c) Specific Characteristics.

i. Pictorial courseware should maintain enough pictures to permit varying the preflight items covered in practical tests.

ii. The aircraft should be shown in a typical prior-to-flight condition, which may include the support people and equipment, (i.e., fueling, cleaning, and catering) normally associated with flight preparation.

iii. Nothing should obstruct the view of the preflight item (jetways, fuel trucks, workstands, etc.).

iv. The pictorial series should feature the same or identical aircraft. In some cases use of a dissimilar aircraft may be justified to depict differences. Pictures should be representative of the specific aircraft in which the pilot certification will be conducted. For example, slides of a B-737-300 are not representative and should not be used for training or testing in a B-737-200 curriculum; and vice versa.

v. Text or voice manuscript should be available for, and match, each picture.

vi. The courseware should be high quality, and projection equipment should have random and rapid access capability. Examples of unacceptable quality include low resolution copier-machine copies of photographs, videotape systems without random and rapid access capability, or any other pictorial system that is markedly inferior to use of a static airplane.

vii. Pictures used for training should include some that also will be used for checking or testing. However, pictures used for checking or testing should include some not seen during training.

viii. For checking and testing, abnormal features should not be shown in pictures intended to depict normal aircraft conditions.

ix. Enough pictures of abnormal conditions should be maintained to permit comprehensive coverage. In particular, pictures should include those abnormal conditions which are likely to be encountered during preflight inspection and those which are potentially unsafe.

x. Unless an abnormal condition is intentionally depicted for checking and testing, pictorials illustrate as follows:

1. All permanent parts should be in place and in normal condition, such as windows and doors, windshield wipers, antennas, etc.;

2. All removable parts such as engine cowls and access panels should be in place and in normal condition (engine inlets should be shown with covers removed);

3. Aerodynamic surfaces, wheel well doors, flaps, slats, and other devices should be in configuration that they normally in prior to flight; and

4. People and equipment associated with assembly or maintenance work should not be in the illustration.

(d) Standard References. The preflight procedures contained in the FAA-approved Airplane Flight Manual (AFM) or Rotorcraft Flight Manual (RFM) are the standard references for the preflight visual inspection. They are primary for determining essential preflight items and the sequence in which those items should be inspected.

(2) Lesson Plans.

(a) Each training center or training center applicant must have lesson plans to implement each syllabus and curriculum.

(b) While there are no specific requirements for approval or acceptance of lesson plans, they are the indicators that the instruction will flow in a logical sequence and in concert with the other training aids. Deficient lesson plans are subject to the revision provisions of 14 CFR part 142 § 142.37(e) and (f).

(3) Flight Event Descriptions (commonly called profiles or flight maneuvers and procedures document).

(a) Must be provided for each training program.

(b) Should follow the guidelines in FAA Order 8400.10, volume 3, chapter 2, section 2;

(c) Are accepted only as an integral part of the overall training program subject to the revision provisions of 14 CFR § 142.37(e) and (f);

(d) Must comply with all limitations of the AFM or RFM; and

(e) Must comply with and be consistent with requirements and conditions of the PTS and 14 CFR.

(4) Aircraft Operating Manuals, Checklists, and Quick Reference Handbooks (QRH).

(a) Part 142 does not require manual(s) in the sense that part 121, subpart G does. There is no specific requirement for a General Operations Manual or Aircraft Operating (or Operations) Manual.

(b) The training center applicant should use as the basic reference the FAA-approved AFM or RFM for systems information, description, operation, performance planning, checklists, and weight and balance.

(c) The FAA accepts rather than approves the other documents, except for the AFM or RFM and their contents.

(d) The aircraft operating checklists used in flight simulators, FTDs, and aircraft, in approved training center programs must be accepted as courseware for use in those programs. A variety of revised checklists have been presented to training center instructors by trainees as a result of an operator's desire to simplify or improve the manufacturer's checklist, or to match equipment added or changed in their aircraft, or for fleet standardization. These revisions have not always been in the best interest of safety, as removing, moving, or adding an item can create an unintentional unsafe result. It is, however, acknowledged that training with the checklist that the client commonly uses is the most effective method of training. Should the training center choose to accommodate an operator by permitting the use of a non-standard checklist, the training center must complete a checklist review in sufficient time, as determined by the TCPM, for the TCPM to review and accept the checklist as program courseware.

i. The training center must complete the following prior to submitting a non-standard checklist to the TCPM for use in an approved program.

1. Select as checklist evaluators persons with expertise appropriate to the aircraft and equipment installed (i.e., TCE, manufacturer of aircraft, and/or installer of non-standard equipment).

2. Provide a list of subject matter experts used in the evaluation and review.

3. Indicate in writing that the checklist contains the items found in the AFM, and identify differences, including changes, additions, or deletions.

4. Provide a written statement that indicates that this checklist will not be contrary to any regulations, will not jeopardize safe operations of the aircraft, and will not facilitate any negative transfer of learning.

ii. The TCPM must agree, and state to the training center in writing that, this checklist has been reviewed and is accepted for use as courseware, in the center's training program. Should the TCPM be unqualified in the aircraft, and for whatever reason, lack the expertise to conduct a review of this type, support should first be sought within the office. To act in an advisory capacity, additional subject matter experts on particular aircraft make/model/series can be found within our flight operations inspector ranks, the Flight Standards Inspector Resource Program, and the Flight Standards Aircraft Evaluation Groups (AEG).

(5) Workbooks and Handouts. Are accepted only as an integral part of the overall training program subject to the revision provisions of 14 CFR § 142.37(e) and (f).

(6) Computer Software Programs, Audiovisual Programs, and other Courseware. Are accepted only as an integral part of the overall training program subject to the revision provisions of § 142.37(e) and (f).

D. Facilities. Each training center and training center applicant must have a training room, training booth, or other space used for instructional purposes that is heated, lighted, and ventilated to conform to local building, sanitation, and health codes. Each training facility must provide students with an environment free from the distraction of other classrooms or flight and maintenance operations on the airport.

E. Flight Training Equipment. Each training center's flight training equipment must be adequate to support the curriculum goals. The FAA will evaluate and approve flight training equipment before approval of a training curriculum.

(1) Flight Simulators. Flight simulators must meet and maintain the standards under which they were originally qualified (i.e., under the provisions of AC 120-40, Airplane Simulator Qualification). The national simulator program staff will qualify flight simulators before approval by the TCPM.

(2) Flight Training Devices.

(a) Levels 6 and 7 FTDs. These devices must meet and maintain the qualification standards set forth in AC 120-45, Airplane Flight Training Device Qualification. The national simulator program staff will qualify these devices before approval by the TCPM.

(b) Levels 1 Through 5 FTDs. These devices are approved by the TCPM in accordance with a qualification test guide submitted by the training center and accepted by the National Simulator Program Manager (NSPM). Each device must meet and maintain the qualification standards set forth in AC 120-45A.

(3) Aircraft. Each training center certificate holder must maintain and inspect each aircraft IAW part 91, subpart E, an approved maintenance and inspection program, or the equivalent maintenance requirements of the country of registry. Each holder of, or applicant for, a training center certificate must ensure that each aircraft that it uses, or proposes to use, must be equipped to conduct all maneuvers and procedures required by the approved training program in which it is to be used.

F. Training Center Personnel.

(1) Each training center must have adequate personnel necessary to accomplish training objectives.

(2) Persons who conduct training directly with a student must be able to read, write, understand, and fluently speak the English language.

G. Instructor and Evaluator Qualifications and Training.

(1) Part 142, subpart C, outlines the prerequisites, training requirements, operating procedures, and limitations of training center instructors for other than parts 121, 125, and 135 certificate holders.

(2) Each Training Center Evaluator (TCE) must be qualified as an instructor before becoming eligible for designation as a TCE. Each TCE used in an air carrier program must meet eligibility, training, and qualifications of the appropriate regulations. See Order 8700.1, volume 2, chapter 152, section 1, paragraph 3 for training and designation as a TCE.

(3) Each instructor must meet the eligibility requirements of 14 CFR part 142 § 142.47.

(4) Each instructor must meet the prerequisites for the position and complete the appropriate training program in which that individual will instruct.

(5) Each instructor must be individually approved by the training center for use in each training course assigned. The training center applicant or certificate holder must identify and document the duties of each instructor: for example, ground instructor, Learjet initial and recurrent; flight simulator instructor, initial and recurrent, B-727; or airplane flight instructor, initial and recurrent, B-727.

(6) Before functioning as an instructor in a curriculum, an instructor must be appointed and authorized by the training center, in writing, to instruct in the curriculum(s) to which assigned.

(7) Instructors for contracting part 121 or 135 operators must meet the eligibility, training, and qualifications requirements of those parts, as applicable.

(a) Each instructor used in a part 121 training program must, as a minimum, meet the following requirements:

i. Meet the prerequisites for the position,

ii. Be trained in accordance with 14 CFR §§ 121.402, 121.412, and 121.414 for the part 121 training program in which that individual will instruct, and

iii. Complete the appropriate training program in which that individual will instruct.

(b) Each instructor used in a part 135 training program must, as a minimum, meet the following requirements:

i. Meet the prerequisites for the position,

ii. Be trained in accordance with 14 CFR §§ 135.324, 135.338, and 135.340 for the part 135 training program in which that individual will instruct, and

iii. Complete the appropriate training program in which that individual will instruct.

(8) All instructors must complete an instructor training program that has been approved by the TCPM. The program must include the initial and recurrent training and testing requirements of part 142, subpart C. Subpart C allows the FAA to give credit for completion of a part 121 or 135 instructor training program if the FAA determines that the course meets the requirement of part 142, subpart C. Before an applicant for, or holder of, a training center certificate initially designates an instructor, each instructor must complete at least 8 hours of ground training provided by that training center. Instructor training must include these following subjects:

(a) Instruction methods and techniques.

(b) The fundamental principles of the learning process.

(c) Training center policies and procedures.

(d) Instructor duties, privileges, responsibilities, and limitations.

(e) Proper operation of simulation controls and systems.

(f) Proper operation of environmental control and warning or caution panels.

(g) Limitations of simulation.

(h) Minimum equipment requirements for each training curriculum.

(i) Revisions to the training curriculum(s).

(j) Crew resource management (CRM) and crew coordination.

(9) Instruction in the subjects in subparagraphs (a) and (b) above may be waived by the TCPM for:

(a) Instructor applicants who hold a current teacher's certificate, or its equivalent (issued by a state, county, or city), that authorizes that person to teach in a junior or senior high school;

(b) A person regularly employed as an instructor in an accredited college or university; or

(c) Holders of a flight or ground instructor certificate.

(10) Each instructor must satisfactorily complete a written test on the subjects listed under paragraph 3G(8)(a) through (j), above. The test must be comprised of questions that are equivalent in difficulty, complexity, and scope to those specified by the FAA for the flight instructor-airplane and instrument flight instructor knowledge tests. The certificate holder must ensure that the following

conditions are met for each person employed as a flight simulator instructor.

(a) Each person must satisfactorily complete an approved course of flight simulator training and an approved course of ground instruction which must include the following, as applicable, to the training courses the instructor is authorized to instruct:

i. Proper operation of flight simulator and FTD controls and systems;

ii. Proper operation of environmental and fault panels;

iii. Limitations of simulation;

iv. Minimum equipment requirements for each course of training;

v. Performance and analysis of flight training procedures and maneuvers applicable to the courses that the instructor is authorized to instruct;

vi. Technical subjects covering aircraft subsystems and operating rules applicable to the courses that the instructor is authorized to instruct;

vii. Emergency and abnormal operations; and

viii. Appropriate safety measures.

(b) Prior to instructing in a class, each instructor candidate must satisfactorily demonstrate to an authorized evaluator, one who satisfies the requirements of part 142, § 142.47, or FAA inspector knowledge of, and proficiency in, instructing in a representative segment of each course of training for which that instructor is authorized to instruct.

(11) Every 12 calendar months, beginning the first day of the month following an instructor's initial authorization, each instructor must accomplish the items listed below.

(a) The instructor must complete 4 hours of ground training on the subject matter listed under paragraph 3G(8)(a) through (j).

(b) The instructor must satisfactorily pass a knowledge test on the subjects listed under paragraph 3G(8)(a) through (j).

(c) The instructor must demonstrate the following abilities:

i. The instructor must be able to pilot the flight simulator in each maneuver, procedure, and crewmember function authorized to be taught.

ii. The instructor must be able to instruct each maneuver, procedure, and crewmember function authorized to be taught. The demonstration of instructing ability must be performed from the instructor panel in a flight simulator representing each type of aircraft in which the individual will instruct.

iii. The instructor may accomplish the pilot and instructor demonstrations with an FAA inspector or a TCE authorized for this purpose.

iv. The inspector or designated evaluator who conducts the evaluations required under paragraph 3G(11)(c)i and ii must evaluate each maneuver and procedure listed in the appropriate PTS.

v. At his or her discretion, the inspector or designated evaluator may select other procedures and crewmember functions to ensure that the examinee has the abilities required under paragraph 3G(11)(c)i and ii.

(d) In addition to the requirements listed under paragraphs 3G(8), (10), and (11), the certificate holder must ensure that each instructor who instructs in level C or D flight simulators annually meets one of the requirements listed in 14 CFR § 142.53(b).

(e) An instructor who satisfactorily completes the requirements of this paragraph in the calendar month before or after the month in which it is due, is considered to have taken it when due.

(f) An instructor who has satisfactorily completed an instructor training course for a part 121 or 135 certificate holder may be given credit for satisfying these requirements if the FAA determines that the course meets the requirements of this paragraph.

(g) Except as required by 14 CFR § 142.47(a)(5)(ii), each flight instructor must hold at least a commercial pilot certificate with appropriate category, class, type, and instrument-airplane ratings or meet the aeronautical experience requirements of 14 CFR § 61.129.

(h) If instructing in a flight simulator that represents an airplane requiring a type rating, or if instructing in a course of training leading to the issuance of an ATP certificate or an added rating to an ATP certificate, each instructor must satisfy one of the two following requirements:

i. Hold an ATP certificate with appropriate category, class, and type ratings, or meet

the aeronautical experience requirements of 14 CFR § 61.159; or

ii. Be currently qualified to instruct under part 121 or 135 in a flight simulator representing the same type airplane.

(i) If instructing in an aircraft from a required crewmember position, each instructor must hold a medical certificate and a current flight instructor certificate with appropriate category, class, and type rating.

(j) Each instructor who instructs in an aircraft must maintain recency of flight experience as required by 14 CFR § 61.57.

(k) Flight simulator instructors who also instruct in an aircraft may maintain recency of flight experience in a flight simulator, as authorized by 14 CFR § 142.63.

H. Advanced Qualification Program (AQP) and Training Centers.

(1) The FAA's goal for the AQP is to improve safety through improved training. The AQP accomplishes this by matching the technology to the training requirements and approving the training program content based on its relevance to operational performance. A training center that applies to offer an AQP curriculum segment for a specific part 121 or 135 air carrier may be approved under Special Federal Aviation Regulation (SFAR) 58 to provide training for that specific carrier. AQP curricula is developed through an alternative approval process. Curriculum development is based on an analysis process using input that incorporates consideration of the PTS and FSB reports. The AQP curricula contains segments that address an air carrier's:

- Training and testing procedures
- Proficiency
- Tracking
- Airmen certification requirements
- Operations

(2) An air carrier certification holder is not required to have a part 142 certificate to conduct AQP training, qualifications, and evaluation for another part 121 certificate holder.

(3) The training center submits the AQP curricula directly to the AQP Branch, AFS-230, at FAA headquarters for review. A copy will also be provided to the TCPM. When an AQP curriculum meets required standards, AFS-230 will provide initial approval after coordination with the TCPM. Copies of the approved AQP curriculum are then returned to the training center and TCPM by AFS-230.

(4) Detailed information about the initial and final approval process for training centers that wish to conduct AQP training is delineated in FAA Order 8400.10, volume 3, chapter 4 or refer to http://www.faa.gcv/avr/aqphome.htm.

I. Permissible Crew Pairings Policy During Training and Checking. Part 135 air carriers often operate with small pilot rosters or with pilots who are widely dispersed. Special crew pairing policy shall apply. This policy allows crew pairings for flight training and/or checking in a simulator at a training center using an appropriate crewmember. An appropriate crewmember must be one of the following:

(1) One of the carrier's line qualified pilots,

(2) A flight instructor (airplane or simulator) or a check airman (airplane or simulator) who is authorized to serve in that air carrier's training program or in an air carrier training program that is essentially similar. Training programs may be viewed as essentially similar when they include the same core curriculum, the same checklists, and the same callouts; and include cockpit configurations, operational procedures, and flight manuals which are compatible in the judgment of the TCPM and the appropriate POI, or

(3) A part 135 air carrier pilot being trained in a training program which is FAA-approved for another part 135 air carrier, but which is otherwise essentially similar. The following conditions apply:

(a) Each air carrier pilot must be trained in accordance with the training program approved by the POI of his/her own air carrier.

(b) Two pilots training for operations with different carriers may be paired provided their respective training programs are essentially similar. Minimum Equipment Lists (MEL), Operations Specifications (OpSpec), and other features specific to each air carrier's operations must be addressed during flight training. When core curricula are not the same, pilots may not be paired; similarly, when operational differences between carriers are too pronounced or too numerous, at the discretion of the POI or TCPM, pilots may not be paired.

(c) When only one pilot is receiving flight training, the other pilot's seat must be occupied by a person who is line qualified or line familiar in the specified duty position (see advisory circular (AC) 120-35, as amended, for definition of terms), unless the flight training is being conducted for single pilot operations.

(d) Pilots must have completed the operator's applicable ground training curriculum segments prior to starting the flight training curriculum segments.

(4) Pairing pilots in flight training and evaluation for operations under different parts. When pilots from different operators are paired in training programs that are essentially similar, the operator-specific features (such as MEL's and OpSpecs) of each operator must be addressed. Pilots in training for part 135 operations should not routinely be paired with pilots training for operations under 14 CFR part 91. These crew pairings should be avoided in favor of the pairings shown above. However, such crew pairings are permissible if the following conditions are met:

(a) The part 91 pilot must conform to the training program of the part 135 pilot in every important respect. Specifically, checklists, profiles, approach procedures and callouts must be those used in the training program of the part 135 pilot (not vice versa), and the part 91 pilot must understand and apply crew resource management (CRM) principles in accordance with the Air Transport Pilot Practical Test Standards.

(b) One final checkride shall be conducted for each part 135 pilot (no progressive checks). When the part 135 pilot's checkride is complete, the provisions in this bulletin no longer apply to that pilot. The part 135 pilot may support the part 91 pilot's training activities as appropriate.

(c) The part 91 pilot must use the part 135 pilot's training program, subject to the concurrence of the TCPM.

(d) The part 91 pilot must have received differences training in the features of the part 135 training program that distinguish it from part 91 training programs. That training should also include the operator's OpSpecs and operational control procedures.

NOTE: In crew pairings involving pilots of different part 135 operators or pilots operating under different operating rules (part 135 and part 91) POIs and TCPMs must be especially vigilant. The part 135 operator's training program must not be distorted or diminished in order to accommodate dissimilar training needs. If the integrity of the air carrier training program can not be upheld the crew pairing must not be permitted.

SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS. This task will require coordination with National Simulator Program, AFS-205, Advanced Qualification Program Branch, AFS-230, and General Aviation and Commercial Division, AFS-800.

2. REFERENCES, FORMS, AND JOB AIDS.

A. References.

- FAA Order 1380.51, Program Tracking and Reporting Subsystem
- AC 120-53, Crew Qualification and Pilot Type Rating Requirements for Transport Category Aircraft Operated Under FAR Part 121
- FAA Order 8400.10, Air Transportation Operations Inspector's Handbook
- AC 120-45A, Airplane Flight Training Device Qualification
- AC 120-54, Advanced Qualification Program
- AC 120-35B, Line Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation
- Title 14 CFR part 91, General Operating and Flight Rules, subpart E
- Title 14 CFR part 121, SFAR 58, Advanced Qualification Program
- http://www.faa.gcv/avr/aqphome.htm

B. Forms.

- FAA Form 8000-36, Program Tracking and Reporting Subsystem Data Sheet

C. Job Aids.

- TBD

3. PROCEDURES.

A. Program Tracking and Reporting Subsystem (PTRS). Open a PTRS record.

B. Training Programs and Curricula.

(1) See the definitions in part 142 or chapter 148. Distinguish actions and content of each document during the review and approval process. (PTRS codes: 1368, 1369, 1370, 1371, 1377, 1378, 1626, 1630, 1646, and 1647.)

(2) Core curriculum.

(a) Review the curriculum for format and content. Ensure that each proposed core curriculum contains the necessary training to meet the knowledge and skill requirements of all Areas of Operation of the PTS as well as any additional special training emphasis areas recommended in FSB reports. Check FSB report recommendations for compliance (Reference: AC 120-53 establishes guidelines for determining the FSB recommendations).

(b) Ensure the core curriculum contains properly named and sequenced segments and modules that address an applicant's training and testing procedures. Refer to FAA Order 8400.10, volume 3, chapter 2 for curriculum design, structure, and nomenclature.

(c) Determine that core curricula clearly and independently achieve part 61, 63, 65, 121, or 135 objectives.

(d) Require clear and concise objective statements.

(e) Use chapter 150, section 1 as a resource and a checklist during the review.

(f) Do not approve brief or debrief time for flight or simulated flight sessions as programmed instruction time.

(g) Count instruction time to determine compliance with maximum duty time per day limits prescribed by 14 CFR § 142.49. Don't count briefing and debriefing times in determining compliance with that limitation.

(h) Return as unapproved for use as a core curriculum, any curriculum that includes training for tasks and circumstances unique to a training center client. Curricula of this type are suitable for specialty curricula only.

NOTE: Figure 150-1 contains a sample core curriculum.

(i) If obvious errors or omissions do not exist, submit the proposed core curriculum to AFS-800 for comments and concurrence with the curriculum approval.

(j) Notify the applicant of any obvious errors or omissions as soon as possible, and offer the applicant an opportunity to amend and resubmit the curriculum.

(k) If the applicant chooses not to amend the curriculum, forward it to the AFS-800 regional representative with the errors or omissions identified and the applicants justification for not amending the curriculum. AFS-800 will review the curriculum for compliance with regulatory requirements, curriculum design guidance, and generally accepted standards, and provide the certifying Flight Standards District Office with a recommendation to approve or disapprove.

(l) When approved, stamp the List of Effective Pages page of the curriculum FAA-approved and affix an original signature, title, and date if the applicant presents such a page. If it does not, stamp each page FAA-approved and affix an original signature, title, and date.

(m) Include curricula in Training Specifications B001, B002, B003, B004, B005, B006, B011, or B012, as applicable.

(3) Specialty Curricula.

(a) Review the specialty curriculum for format and content.

(b) Use chapter 150, section 1 as a resource and a checklist during the review.

(c) Require clear statements of objectives.

(d) If obvious errors or omissions exist, notify the applicant as soon as possible and offer the applicant an opportunity to amend and resubmit the curriculum.

(e) If the applicant chooses not to amend the curriculum consider it disapproved and cease activity on this task.

(f) If obvious errors or omissions do not exist in the proposed specialty curriculum, approve the curriculum and issue the attendant Training Specifications.

(g) If the applicant presents a page titled, List of Effective Pages, stamp it FAA-approved, and affix to it an original signature, title, and date. If it does not provide such a page, stamp each page FAA-approved, and affix an original signature, title, and date.

(h) Include specialty curricula in Training Specifications B001, B002, B003, B004, B005, B006, B011, or B012, as applicable.

(4) Courseware.

(a) Pictorial Courseware for Preflight Training and Testing.

i. Prior to approving any curriculum for 100% training and testing in a simulator, evaluate and approve the pictorial courseware for preflight instruction and testing.

ii. Apply the guidance in chapter 150, section 1 as a checklist during evaluation and approval of pictorial preflight courseware.

iii. As a standard, reference the FAA-approved AFM or RFM for essential preflight visual inspection items and the sequence for inspecting those items. Ensure that the checklists used by the trainee are accepted by the FAA.

iv. For optimum effective training strategies, ensure that the pictorial preflight courseware used in training is different from that used in testing. In general, approve only courseware which features static pictorial displays (pamphlets, murals, etc.), videotape, and interactive computer-based instruction systems in training, and approve predominately slide pictorials for testing.

v. Ensure that the trainee generally views preflight items in normal configurations during training.

vi. Ensure that abnormal conditions are introduced during testing, in a sufficient number to permit a reliable evaluation of the applicant's preflight ability.

(5) Lesson Plans.

(a) Ensure that the holder of, or applicant for a certificate has lesson plans that:

i. Support the curriculum with appropriate content and time;

ii. Indicate times that equal or exceed the times approved for each curriculum and curriculum segment;

iii. Address all elements and events specified in the curriculum;

iv. Implement each syllabus and curriculum;

v. Shows the flow of instruction in a logical sequence and in concert with other training aids; and

vi. Treat deficient lesson plans IAW the revision provisions of 14 CFR § 142.37(e) and (f).

(6) Flight Event Descriptions.

(a) Review the following requirements and conditions prior to acceptance:

i. General compliance with the guidelines in FAA Order 8400.10, chapter 2, section 2.

ii. Compliance with all limitations of the applicable AFM or RFM.

iii. Consistency with requirements and conditions of the PTS and 14 CFR.

(b) Flight events are accepted only as an integral part of the overall training program. They are subject to the revision provisions of 14 CFR § 142.37(e) and (f).

(7) Aircraft Operating Manuals, Checklists, and QRHs.

(a) Note that part 142 does not require manual(s) in the sense that part 121, subpart G does. There is no specific requirement for a General Operations Manual or Aircraft Operating/Operations Manual. Accept all the items mentioned in this paragraph instead of approving them.

(b) Ensure that the certificate holder uses the FAA-approved AFM or RFM as the basic reference for systems information, description, operation, performance planning, checklists, and weight and balance.

(c) Ensure that the only checklists used during training are manufacturers checklists or FAA accepted checklists.

(8) Workbooks and Handouts.

(a) Ensure that these materials match the type airplane that is the subject of the curriculum. Aids, films, audiovisuals, illustrations, etc., cannot be of another airplane built by the same manufacturer.

(b) Accept workbooks and handouts only as an integral part of the overall training program subject to the revision provisions of 14 CFR § 142.37(e) and (f).

(9) Computer software programs, audiovisual programs, and other courseware. Accept programs and courseware of this type only as an integral part of the overall training program subject to the revision provisions of 14 CFR § 142.37(e) and (f).

(10) Facilities.

(a) Ensure that each training room, training booth, or other space used for instructional purposes is heated, lighted, and ventilated to conform to local building, sanitation, and health codes.

(b) Ensure that the training facility provides students with a learning environment free of distractions such as instruction conducted in other rooms or flight and maintenance operations on the airport. (PTRS codes: 1371 and 1647.)

(c) Authorize satellite training centers in Training Specification B008 and remote training centers in Training Specification B009.

(11) Flight Training Equipment. Evaluate and approve flight training equipment before approving the training curriculum. Include it in recurring inspector work programs. (PTRS codes: 1351 and 1630.)

(a) Flight Simulators.

i. Before beginning approval, determine that AFS-205 has qualified the simulators the applicant proposes to use. If the simulator to be used is new to the location, contact AFS-205 to effect simulator evaluation and qualification.

ii. Evaluate and qualify each proposed circling approach combination of instrument approach procedures (IAP) and landing runway. Approve those that meet the criteria of ATP PTS task V E 7. Authorize circling approaches only by pair combinations in the Training Specifications.

NOTE: The criteria for performing a circling approach during a certification flight (PTS) is different than the criteria for establishing terminal instrument procedures (TERPS). The PTS requires evaluation of circling approaches to a landing runway heading that is at least 90 degrees to the final approach course. TERPS criteria requires publishing a circling approach when there is more than a 30 degrees course difference between the landing runway and the course at the final approach fix position.

iii. Evaluate each airport visual scene and approve it if it reasonably replicates the runway, taxiway, and associated markings that it represents.

AC 120-40 indicates the approval criterion for qualification of a flight simulator at a particular level as follows: at a minimum, accurate replication of the runway visual scenes of three of the runways to be presented during training and checking.

iv. Include flight simulators in Training Specifications A015 and D002, D003, and D004, as applicable.

(b) Flight Training Devices.

i. Levels 6 and 7 FTDs.

1. Before beginning approval, determine that AFS-205 has qualified the FTDs that the applicant proposes to use.

2. If the FTD is new, contact AFS-205 and schedule the FTD evaluation and qualification.

3. Include Levels 6 and 7 FTDs in Training Specification A016 and D005.

ii. Levels 2 Through 5 FTDs.

1. For new Level 5 FTDs contact AFS-205 and schedule a FTD evaluation and qualification, or you may refer to the Qualification Process Flow Chart on the National Simulator Team website at <www.faa.gov/nsp>.

2. Evaluate and approve Level(s) 2 through 5 FTDs in accordance with an approval test guide submitted by the training center and accepted by the National Simulator Program Manager (NSPM).

3. Ensure that each device meets the qualification standards, and will apparently maintain those standards set forth in AC 120-45.

4. Modifications to existing model FTD Levels 1 through 5 are made IAW AC 120-45, paragraph 8. Prior to issuing authorization to use modified FTDs, Levels 1 through 5, qualify and approve the devise and provide the information listed below to AFS-800 in memo form:

(aa) The name and address of the FTD manufacturer.

(bb) The make/model, and date of manufacture.

(cc) The Level(s), 1 through 5, for which the device is qualified.

(dd) The specific maneuvers and/or procedures for which the device is authorized for use.

5. Do not authorize qualified and approved Level 1 through 5 FTDs for use until the information listed above has been recorded by AFS-800.

6. Include these FTDs in paragraphs A016 and D005 of the Training Specifications.

iii. Level 1 FTDs.

1. Approve as level 1 FTD those devices found acceptable by the FAA prior to August 2, 1996, provided:

(aa) AFS-800, or its predecessor offices issued a letter authorizing the use of the candidate Level 1 FTD.

(bb) The requirements of 14 CFR § 61.4(b) are met for the continued use as a level 1 FTD.

2. Comply with the reporting requirements of FAA Order 8700.1, volume 2, chapter 34 regarding their use.

3. Use the previously reserved Level 1 classification for FTDs to identify these devices.

4. Ensure that all new FTDs manufactured or placed into service after August 6, 1996 are ineligible for conferred status as a Level 1 FTD and are evaluated, qualified, and approved under the regulations which apply at the time.

5. Include these FTDs in paragraph A016 and D005 of the Training Specifications.

6. AFS-800 will maintain a list of all FTDs qualified as Level 1 and approved for use. This action is necessary to ensure that AFS is able to satisfy its oversight responsibilities in providing clear and effective national policy guidance for both agency and the users of Level 1 FTDs.

(c) Aircraft.

i. Ensure that each aircraft will be maintained and inspected in accordance with part 91, subpart E, an approved maintenance and inspection program, or the equivalent maintenance requirements of the country of registry. Seek the assistance of an Airworthiness Inspector in making this determination if desired.

ii. Ensure that each aircraft is equipped to conduct all maneuvers and procedures required by the approved training program in which it is to be used.

iii. Include aircraft and inspection programs, as appropriate, in Training Specifications A003, D001, and D073.

(12) Instructor (including Evaluator) Qualifications and Training.

(a) During the demonstration and inspection phases of the certification, conduct observations and record checks (PTRS codes: 1368, 1370, 1621, 1646, and 1650).

(b) Instructor records must indicate the following:

i. Each instructor is at least 18 years of age and is able to read, write, speak, and understand the English language.

ii. Each instructor candidate before functioning as an instructor in a curriculum meets the eligibility requirements of 14 CFR § 142.47.

iii. Each instructor is appointed and authorized by the training center, in writing, to instruct in the curriculum(s) to which they are assigned.

iv. Each person instructing in a course that leads to the issuance of an ATP certificate or a type rating at the ATP level holds an ATP certificate with a type rating in that aircraft, or meets the aeronautical experience for the issuance of that certificate and rating. (PTRS code: 1650.)

v. Instructors for contracting part 121 or 135 operators meet the applicable eligibility, training, and qualification requirements of those parts. All instructors read, write, understand, and fluently speak the English language.

NOTE: There is no requirement for a simulator only instructor to hold any grade of medical certificate.

(c) Conduct initial and annual instructor proficiency tests as described by 14 CFR § 142.53(a)(1).

(d) Conduct proficiency checks and observations of proposed evaluators, if any, who may be designated to conduct proficiency checks as described by 14 CFR § 142.53(a)(1).

(e) Designate evaluators who will conduct the instructor proficiency tests described by 14 CFR § 142.53(a)(1).

(f) Review and approve the instructor written test required by 14 CFR § 142.47.

(g) Issue Training Specification A013 allowing all authorized instructors to be named on a list that will be maintained as specified in Training Specification A013.

(h) Include TCEs in Training Specification A012.

(13) AQP in Training Centers.

(a) See FAA Order 8400.10, volume 3, chapter 4 for detailed information about the initial and final approval process for training centers that wish to conduct AQP training.

(b) Accept requests for new or amended AQP curricula from either of the following:

i. A training center applied to AFS-230 to establish or change a provisional AQP, or

ii. A training center is required by AFS-230 to revise its existing AQP, based on training techniques, aviation technology, aircraft operational history, or operator performance.

(c) Phased Review Process. As a part of the phased review process, participate with AFS-230 in a review and analysis of the AQP curriculum or curriculum segments. The phased review process is delineated in FAA Order 8400.10, volume 3, chapter 4, section 2.

(d) Approval. Upon AFS-320 notification of provisional approval or final approval of an AQP program, add Training Specification A013.

NOTE: The provisional approval and final approval process described above apply only to approval of an AQP curriculum or part of an AQP curriculum. Part 142 specifically excludes provisional approval of the air agency certificate or any other approvals under that part.

C. PTRS and VIS. Make final VIS entries and close PTRS records.

4. TASK OUTCOMES.

A. Approve or accept, as appropriate, curriculum, flight training equipment, personnel, supporting courseware, and overall training program that leads to the issuance of each new certificate or reissuance of a foreign training center certificate. Issue or amend the Training Specifications, according to the approval granted.

B. Deny a training center certificate, or reissue of a foreign training center certificate.

C. Deny a requested amendment to the Training Specifications.

D. Amend Training Specifications to reflect actual capability of a training center certificate holder.

5. FUTURE ACTIVITIES.

A. Conduct ongoing surveillance in accordance with chapter 153.

B. Amend Training Specifications as indicated by surveillance and at the approved request of the certificate holder.

C. For Foreign training centers, plan annual re-certification activities, with emphasis on records of compliance.

FIGURE 150-1
SAMPLE CORE CURRICULUM

CORE CURRICULUM – OVERVIEW

This course will qualify the candidate for an Airline Transport Pilot certificate with a Boeing B727 type rating or on their current certificate a Boeing B727 type rating, as specified under 14 CFR part 61.

Documentation of the student's enrollment qualifications will become a permanent part of the students training records. Barrett's Airline Training Center will review the applicant's records, and determine what (if any) limitations are to be placed on the issuance of the Boeing B727 Type Rating. A summary will be presented to the FAA or Evaluator as part of the training records to validate the program of instruction and what if any limitations are to be placed on the issuance of the Boeing B727 Type Rating.

This curriculum identifies the elements of instruction, and takes into consideration the candidates experience level as a factor for establishing training hour requirements for instruction. The elements of instruction and the students' ability to progress to the standards as prescribed by the FAA in the focal point of this curriculum. The curriculum outlines a course of instruction designed to take advantage of the current level of simulator sophistication to maximize the training environment and establishing a high degree of pilot proficiency in a safe and economical manner. Each student enrolled in this course will meet the minimum eligibility requirements, aeronautical knowledge, and aeronautical experience specified in 14 CFR part 61 subpart B, F, or G as applicable.

More detailed lesson plans will be prepared, for each lesson based on the lesson plan elements of instruction in this curriculum. The lessons may be adjusted consistent to the simulators utilized for training, based on data loaded in that particular simulator. A more detailed lesson guide is published in the Instructors Manual for this course. The instructor will adjust the areas of emphasis during the proficiency phase to take into consideration varying levels of individual student performance. No student will have finished this course of instruction or will the student be recommended for the evaluation phase unless the student demonstrates a satisfactory level of performance.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

CURRICULUM: BOEING B727 TYPE RATING

6. PREREQUISITES FOR ENROLLMENT. The trainee shall hold a commercial pilot certificate with instrument rating before receiving training and testing required by Title 14 of the Code of Federal Regulations (14 CFR), and the trainee shall meet the requirements of 14 CFR Section 61.31(f), 61.63, 61.155, or 61.157, as applicable. Training will be entirely in a Level C or Level D flight simulator subject to the following limitations.

A. **Primary Prerequisites** – Certificate with no limitations:

(1) Trainee shall hold a type rating for a turbojet airplane of the same class, or have been appointed by a military service as a pilot-in-command (PIC) of an airplane of the same class for which turbojet airplane type rating sought; or

(2) Trainee shall have at least 2,000 hours of actual flight time, of which 500 hours must be in turbine-powered airplanes of the same class as the rating sought; or

(3) Trainee shall have at least 500 hours of flight time in the same type airplane as the rating sought; or

(4) Trainee shall have at least 1,000 hours of flight time in at least two different airplanes requiring a type rating.

B. **Alternate Prerequisites** – Certificate subject to pilot in command limitations for the additional rating. (15hrs): (one of the following)

(1) If the applicant holds a type rating in a propeller-driven airplane.

(2) Since the beginning of the 12th calendar month before the month in which the applicant completes the practical test for the additional rating has logged.

- At least 100 hours of flight time in the same class as the airplane for which the type rating is sought and which requires a type rating, and
- At least 25 hours of flight time in the airplanes of the same type for which the type rating is sought.

C. **Alternate Prerequisites** – Certificate subject to pilot in command limitations, for the additional rating. (25hrs).

- The applicant must complete the Part 142, Barrett's Airline Training Center program, including all training and testing.

2. CURRICULUM OBJECTIVES. The primary objective is to provide the trainee with the knowledge and skills necessary to obtain a Boeing B727 Type Rating and ATP certificate as applicable.

3. CURRICULUM SEGMENTS.

CURRICULUM SEGMENTS	TIME REQUIRED
Home Study	40.0 Hours
Ground	65.0 Hours
Flight	25.0 Hours
Flight (Student not paired)	15.0 Hours

FIGURE 150-1

SAMPLE CORE CURRICULUM -- Continued

4. COMPLETION REQUIREMENTS. All students must meet the curriculum objectives by satisfactorily completing all segments.

- 40 Hours of FAA approved Home Study (verified and tested prior to start of ground school)

5. BOEING B727-200 TYPE RATING, 14 CFR PART 61.

GROUND TRAINING HOURS:	Home Study	40.0
	Classroom Lecture, Video	65.0
	Total Hours	105.0

A. HOME STUDY TRAINING MODULES:

Table 1:

HOME STUDY MODULE	HOME STUDY MODULE
AIRPLANE GENERAL	FLIGHT INSTRUMENTS
AIR CONDITIONING AND PRESSURIZATION	FUEL
AUTO FLIGHT	HYDRAULICS
AUXILIARY POWER UNIT	ICE AND RAIN PROTECTION
COMMUNICATIONS	LANDING GEAR
ELECTRICAL & LIGHTING	NAVIGATION
EMERGENCY EQUIPMENT	PNEUMATIC SYSTEMS
FIRE PROTECTION	POWER PLANT
FLIGHT CONTROLS	WARNING SYSTEMS

B. GROUND TRAINING MODULES:

Table 2:

TRAINING MODULE #	TRAINING MODULE #
TM1	TM17
TM2	TM18
TM3	TM19
TM4	TM20
TM5	TM20
TM6	TM22
TM7	TM23
TM8	TM24
TM9	TM25

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

Table 2: -- Continued

TRAINING MODULE #	TRAINING MODULE #
TM10	TM26
TM11	TM27
TM12	TM28*
TM13	TM29*
TM14	TM30*
TM15	TM31*
TM16	TM32*

* Conducted using a combination of classroom, system boards, CPT, and/or FTD.

C. FLIGHT TRAINING MODULES AND HOURS:

Table 3:

TRAINING MODULE #	HOURS	STUDENT NOT PAIRED
FTM1	4.0	2.0
FTM2	4.0	2.0
FTM3	4.0	2.0
FTM4	4.0	2.0
FTM5	4.0	2.0
FTM6 (LOFT)	4.0	4.0
FTM7 PRACTICAL TEST	2.5**	2.5**
TOTAL HOURS	26.5	16.5***

** Time required may vary at the discretion of the evaluator.
*** If a single PIC crewmember is being trained, Pilot At Controls (PAC), total time for that person will not be less than 15:00 hours, not including the Practical Test. During all 4 hours of the LOFT the single student will be (PAC). The required additional time will be added to one of the FTMs.

NOTE: Completion of Ground and Flight Training Modules satisfies the training requirements for removal of a centerline thrust limitation. (If applicable.)

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

AIRCRAFT GROUND TRAINING CURRICULUM SEGMENT

Section 1.

1. GROUND TRAINING COURSE OBJECTIVES. The primary objective of aircraft ground training is to provide flight crewmembers with the necessary knowledge of understanding the functions of aircraft systems, the use of the individual system components, the integration of those aircraft systems, and pertinent operational procedures. Upon completion of specific ground training curriculum segments, the student will be sufficiently prepared to enter the flight training curriculum segment. Aircraft ground training is conducted by using the following media: classroom instruction, computer-based instruction, ground training devices, flight training devices (FTD), flight simulators, and static aircraft. The student will obtain the necessary aeronautical knowledge required for the airline transport pilot rating, and of the aircraft, equipment, performance, and limitations of the Boeing B727.

2. GROUND TRAINING COURSE COMPLETION STANDARDS. The student will demonstrate through a knowledge test and final written exam, scored 80% or better, that they have the knowledge necessary to pass a FAA knowledge test. Completion standards based on 14 CFR Part 61, and the Airline Transport Pilot and/or Type Rating, Practical Test Standards, on the Boeing B727 aircraft.

Phase 1--Aircraft Systems.

Aircraft General Description
Air-conditioning/pressurization
Automatic Flight
Auxiliary Power Unit
Communication
Electrical Systems
Emergency Equipment
Fire/overheat Protection
Flight Controls
Flight Instrumentation
Fuel System
Hydraulic Power
Ice And Rain Protection
Landing Gear/brakes
Navigation/flight Management
Oxygen System
Pneumatics
Powerplant
Warning Systems

Phase 2--General Operational Subjects.

Preflight Inspection
Weight And Balance
Aircraft Performance And Flight Planning
Aircraft Operating Manual
Faa-approved Flight Manual
Quick Reference Handbook (Boeing QRH)
Adverse Weather Practices
Communication And Navigation Equipment‘
Crm (8 Hours)
High-altitude Physiology

Phase 3--Aircraft Systems Integration *

Cockpit Familiarization And Flow Patterns
Use Of Checklist--normal Operating Procedures
System Emergency Procedures
Emergency Training And Emergency Evacuation

***** Aircraft Systems Integration training will be conducted using a combination of classroom, cockpit procedures training devices, system boards, and/or FTD.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

3. AIRCRAFT GROUND TRAINING

A. AIRCRAFT SYSTEMS.

(1) Air-conditioning/Pressurization.

- General Description
- Automatic Mode
- Standby Mode
- Manual AC
- Manual DC
- Air-conditioning Packs
- Ram Air System
- Equipment Cooling
- Limitations
- Controls and Indicators

(2) Automatic Flight.

- General Description
- Operating Limitations
- Controls and Indicators
- CWS
- Auto Throttle
- Flight Director
- Electrical power loss
- Hydraulic power loss
- Yaw Damper

(3) Auxiliary Power Unit.

- General Description
- Fire Protection
- APU Doors
- APU Fuel and Control system
- Controls and Indicators
- Automatic Shutdown
- Exterior Shutoff
- Operating Limitations

(4) Communication

- General Description
- Controls and Indicators
- Audio Selector Panel
- PA
- Interphone/Ground call
- VHF
- Selcal/ACARS
- CVR
- Jump Seat
- Speakers and Headsets

(5) Electrical Systems.

- General Description
- System concept
- Controls and Indicators
- AC power
- DC power
- Battery Power
- Fault protection
- Standby power
- Ground power
- Non-powered operations (fueling and fire protection)

(6) Emergency Equipment.

- Location and purpose of each item
- Oxygen Masks and regulators
- Emergency lights and exits
- Emergency evaluation routes
- Cockpit Escape Rope
- Overwing Escape Tape
- Emergency Evacuation Devices
- Oxygen Bottles
- PBE – Protective breathing equipment
- First Aid Kits
- Crash Ax
- Fire Extinguishers
- Escape Slides

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

(7) Fire Protection.

- Controls and Indicators
- System Description
- Overheat and Fire protection panel/ switches and lights
- APU ground panel
- Wheel well fire protection
- Power source for detection and protection
- Engine Fire Extinguisher System
- Extinguisher bottle location
- APU Fire Handle in Wheel Well
- Lavatory Fire Extinguishing System
- Compartment Fire Classification A, B, C, D, & E

(8) Flight Controls.

- General Description
- Flight Controls Surfaces Locations
- Roll Control
- Pitch Control
- Yaw control Controls and Indicators
- High Life Devices
- Flight Control Panel
- Rudder and Yaw
- Stabilizer Trim Controls
- Speedbrake Controls and Indications
- Trailing Edge Flap Controls and Indications
- Leading Edge Devices and Indications
- Alternate Flap Extension
- Limitations

(9) Flight Instrumentation.

- Controls and indicators
- General
- Air Data
- Pitot-static
- TAT
- Flight Recorder
- TCAS
- Mach/Airspeed
- Standby Airspeed
- Altimeters
- IVSI
- Standby Horizon
- Air Temp/TAS

(10) Fuel System.

- General Description
- Fuel Types
- Controls and Indicators
- Fuel Control Panel
- Fuel Quantity Indicators
- External Fueling panel
- General Description
- Fuel Pumps
- Fuel Feed
- Fuel Vent System
- Fuel Temperature
- APU Fuel Feed
- Fueling/Defueling/Ground Transfer
- Tank Capacity
- Limitations

(11) Hydraulic Power.

- Controls and Indicators
- Flight Control Panel
- Hydraulic Power Distribution
- Engine Driven Pumps
- Electric Driven Pumps
- A System
- B System
- Standby System

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

- Hydraulic Fuses
- Variation in Quantity Indications

(12) Ice and Rain Protection.

- Controls and Indicators
- Pneumatic Sources
- Electric Sources
- Window Heat
- Pitot Heat
- Rain Repellent and Windshield Wipers
- Engine Anti-ice
- Wing Anti-ice
- Operating Limitations

(13) Landing Gear/Brakes.

- General Description
- Gear Indicators and Actuation
- Gear Downlock Visual Indicators
- Alternate Gear Extension
- Nose Wheel Steering
- Normal Brake
- Alternate Brake
- Brake Pressure Accumulator
- Anti-Skid and Brake Control
- Auto Brakes
- Brake Energy Charts
- Tire Burst Protection

(14) Navigation/Flight Management.

- General Description
- Navigation Receiver System
- Transponder
- Weather Radar
- TCAS Traffic Alert and Collision Avoidance System
- Ground Proximity Warning System
- RDMI
- ADI
- HIS
- DME
- Compass
- Radio Altimeter
- Marker Beacon

(15) Pneumatics.

- Controls and Indicators
- General Description
- Bleed Air Sources
- Wing-Body Overheat Ducts and Lights
- Limitations

(16) Powerplant.

- General Description
- Powerplant Diagram
- Engine Indicators
- Engine Control
- Engine Start Switches
- Engine Fuel System
- Engine Oil System
- Engine Reverse
- Ignition System
- Engine Synchronizer
- Operating Limitations

(17) Warning Systems.

- Warning/Control Lights
- Recall
- Mach and Airspeed Warnings
- Stall Warnings
- GPWS
- Takeoff Configuration Warnings
- Landing Gear Configuration Warnings
- TCAS

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

B. GENERAL OPERATIONAL SUBJECTS.

(1) Preflight Inspection.

- Cockpit Preparation
- Exterior (Walkaround Procedures)*
- Interior*
- Equipment

(2) Weight and Balance.

- Principles
- Methods Determination
- Passenger Loading
- Cargo Loading
- Fueling
- Trim Settings

(3) Aircraft Performance and Flight Planning.

- The use of charts, tables, tabulated data, and other related manual information.
- Normal. Abnormal, and emergency performance problems.
- Meteorological and weight limiting performance factors such as temperature, pressure, precipitation, contaminated runway and climb/runway limits.
- Inoperative equipment performance limiting factors, such as minimum equipment list (MEL), configuration deviation list (CDL), inoperative anti-skid.
- Special operational conditional, such as high altitude airports (takeoffs, landings and go-arounds) and drift-down requirements.
- Conditions of flight with conditions of asymmetrical thrust and drag.**
- Determination and considerations of attempted flight at V_{MCA} and V_{MCG}; and**
- Critical engine determinations and maneuvering with critical engine inoperative.**

(4) Aircraft Operating Manual.

- Airplane operating limitations
- Visual cues prior to and during descent below decision height (DH) or minimum descent altitude (MDA)

(5) FAA-Approved Flight Manual.

- Applicability and Description of the AFM
- Limitations Section
- Emergency Procedures Section
- Normal Procedures Section
- Abnormal Procedures Section
- General Performance Section
- Appendixes

(6) Quick Reference Handbook (Boeing).

- Philosophy and Use
- Preamble
- Boxed Items
- Dashed Items
- Underlines Items

(7) Adverse Weather Practices.

- Icing and Deicing
- Turbulence
- Heavy Precipitation
- Thunderstorms and Associated Windshear and Microburst Phenomena
- Low Visibility
- Contaminated Runways
- Windshear Avoidance

*This training will be conducted with an actual aircraft when available. An approved audio visual presentation may be substituted for the actual aircraft.

** Completion required for removal of centerline thrust limitation (if applicable).

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

(8) Communication and Navigation Equipment.

- ATC Clearance requirements
- SID Requirements
- STAR Requirements
- En route Requirements
- Approach and Landing Requirements

(9) Crew Resource Management.

- Crew Concepts
- Communication Process
- Decisions
- Error Chain
- Building and Maintenance of a Flight Team
- Workload Management
- Conflict Management
- Stress Management
- Situation Awareness
- Behavior Styles
- Hazardous Thought Processes

C. SYSTEMS INTEGRATION TRAINING.

(1) Cockpit Familiarization.

- Activation of aircraft systems controls and switches
- Normal, abnormal, and emergency switches
- Warning and caution lights and annunciation panel
- Pilot's Panel
- Center Panel
- Copilot's Panel
- Center Pedestal
- Overhead Panel
- Circuit Breaker Panel

(2) Use of the Checklist – Normal Operating Procedures.

- Before Starting Engines
- Before Taxi
- Taxi
- Before Takeoff
- Climb
- Descent/In-range
- Before Landing – Final
- After Landing
- Securing

(3) System Abnormal Procedures.

- Abnormal Checklists
- Challenge/Response
- CRM

(4) System Emergency Procedures.

- Emergency Checklists
- Challenge/Response
- CRM

(5) Emergency Training and Emergency Evacuation.

- Preparing for and Emergency landing
- Emergency Exit Operation
- Escape Slide Operation
- Overwing Exit Removal
- Emergency Evacuation
- Emergency Drills
- Emergency Equipment

(6) High-altitude Physiology.

- Respiration
- Effects, Symptoms, and cause of hypoxia and any high-altitude sickness
- Duration of consciousness without supplemental oxygen
- Cause and effects of gas expansion and gas bubble formation
- Preventive measures for eliminating gas expansion, gas bubble formation, and high-altitude sickness
- Physical phenomena and incidents of decompression
- Any other physiological aspects of high-altitude flight

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

AIRCRAFT FLIGHT TRAINING CURRICULUM SEGMENT

SECTION 1.

1. FLIGHT TRAINING OBJECTIVES. Flight training refers to the conduct of training events in a flight simulator or an FTD in accordance with Barrett's Airline Training Center Training Center's approved training curriculum. Flight training may be conducted using a combination of a flight simulator and FTD. In certain instances, flight training may be conducted entirely in a level C or D flight simulator. In any case, the primary objective of flight training is to provide flight crewmembers with the skills and knowledge necessary to perform to a desired standard. This is accomplished by the demonstration, instruction, and practice of maneuvers and procedures (training events) pertinent to a particular aircraft and crewmember duty position. The successful completion of flight training is validated at Barrett's Airline Training Center Training Center by appropriate testing and checking.

Flight Training credit is accumulated by the trainee crewmembers whenever they occupy their respective duty positions during flight simulator training.

More detailed lesson plans will be prepared for each lesson based on the plan elements of instruction in this curriculum. The lessons may be adjusted consistent with the specific simulator utilized for training. A more detailed lesson guide is published in the Instructor's Manual for this course. The instructor will adjust the areas of emphasis during the proficiency phase to take into consideration varying levels of individual student performance. No student will have finished this course of instruction, nor will the student be recommended for the evaluation phase unless a consistent and satisfactory level of performance is demonstrated on all flight maneuvers outlined in the Airline Transport Pilot and/or Type rating Practical Test Standards.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

CURRICULUM SEGMENT OUTLINE

Flight crewmembers must successfully complete all flight training maneuvers outlined in the Flight Training International flight training modules prior to being evaluated.

2. FLIGHT TRAINING MODULES:

A. Flight Simulator Module #1:

- Normal and abnormal maneuvers and procedures

B. Flight Simulator Module #2:

- Normal and abnormal maneuvers and procedures
- Emergency maneuvers and procedures

C. Flight Simulator Module #3:

- Normal and abnormal maneuvers and procedures
- Emergency maneuvers and procedures

D. Flight Simulator Module #4:

- Normal and abnormal maneuvers and procedures
- Emergency maneuvers and procedures

E. Flight Simulator Module #5:

- Normal and abnormal maneuvers and procedures
- Emergency maneuvers and procedures

F. Flight Simulator Module #6:

- Line-oriented flight training (LOFT)

G. Flight Simulator Module #7:

- Evaluation (practical test)

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

3. SIMULATOR PERIOD 1.

A. OBJECTIVE: During this lesson, the instructor will review the performance problem and maneuvers that will be covered in the simulator for this period. Items marked are introduced in this lesson. Italicized items are introduced in a later lesson. Unmarked and non-italicized items the student should be able to demonstrate proficiency.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

1. Normal Operations.

Cockpit Setup
Pre-Start
Taxi
Normal takeoff (Inc. WX ceiling of 100')
Area Departure
Steep Turns
Clean Stall
Departure Stall
Landing Stall
Use of Auto-Pilot and Flight Director
Normal Descent
Area Arrival
ILS – (3 engine)
Missed approach
Visual approach
Landing
Engine Shutdown
Parking Checklist

(1) Abnormal System Operations.

Start Malfunctions
CSD High Oil Temp
Feel Differential Pressure
Filter Icing

C. COMPLETITION STANDARDS: The student will have successfully completed the lesson when, by a knowledge test and flying ability, he or she displays a working knowledge of the items marked above.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

4. SIMULATOR PERIOD 2.

A. OBJECTIVE: During this lesson, the instructor will review the performance problem and maneuvers that will be covered in the simulator for this period. Items marked are introduced in this lesson.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

1. Maneuvers.

Engine Starts	VOR Approach
Low Visibility Takeoff	Manual Reversion Flight and Landing
Rejected Takeoff	Zero Flap Landing
Area Departure	ILS – Flight Director and Raw Data
Specific Flight Characteristics	ADF Approach
Climb to FL 350	Landing
Rapid Depressurization	Taxi & Parking
Emergency Descent	Shutdown

2. Abnormal System Procedures.

B Hyd pump overheat	Wing Body Overheat
Loss A System quantity	Manual Gear Extension
Loss B System pressure	Alternate Flaps Ext.
Pack Trip Off	

3. Emergency System Procedures.

APU Fire	Runaway Stabilizer
Engine Relight procedures	Manual Reversion
Rapid Depressurization	

C. COMPLETION STANDARDS: The student will have successfully completed the lesson when, by a knowledge test and flying ability, he or she displays a working knowledge of the items marked above.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

5. SIMULATOR PERIOD 3.

A. OBJECTIVE: During this lesson, the instructor will review the performance problem and maneuvers that will be covered in the simulator for this period. The student should be able to demonstrate proficiency in almost all the items listed below.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

1. Maneuvers.

Rejected Takeoff
Normal takeoff (Including WX ceiling 100')
Icing Conditions
Cross Wind Takeoff
Radio Failure
Smoke Removal
Area Arrival and Holding
Asymmetrical Thrust and Drag*
Attempted Flight at V_{MCA} and V_{MCG}*
Two Engine Approaches (ILS)
Ground Proximity Warning
Two Engine Missed Approach
Single Engine Landing
Circle Approach
Landing
Taxi-in & Parking
Shut Down

2. Abnormal System Procedures.

System Malfunctions
Asymmetrical Flaps
Radio Failure
Engine Failure Determination*
Determination of V_{MCA} and V_{MCG}*

3. Emergency System Procedures.

Engine Failure on Takeoff
Engine Shutdown
Engine Fire/Overheat
Wheel Well Fire
Smoke in Cockpit
Emergency Evacuation

* Completion required for removal of centerline thrust limitation (if applicable)

C. COMPLETION STANDARDS: The student will have successfully completed the lesson when, by a knowledge test and flying ability, he or she displays a working knowledge and proficiency in most of items listed above. Any items the instructor does not find an adequate level of proficiency will be emphasized on the next lesson.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

6. SIMULATOR PERIOD 4.

A. OBJECTIVE: During this lesson, the instructor will review the performance problem and maneuvers that will be covered in the simulator for this period. The student should be able to demonstrate proficiency in all items listed below.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

1. Maneuvers.

Taxi
Rejected Takeoff
Normal takeoff (Including WX ceiling 100')
Icing Conditions
Cross Wind Take Off
Area Departure
Air Work (Stalls, Steep Turns)
Emergency Descent
Area Arrival & Holding
Single Engine Approaches
ILS
Localizer & Back Course
VOR Approach
ADF Approach
Circling Approach
Missed Approach
Two Engine Missed Approach
Cross Wind Landing
Rejected Landing
Single Engine Landing
Ground Proximity Warning System
Taxi-in & Parking
Shutdown

2. Abnormal System Procedures.

Start Malfunctions
Engine Relight
Asymmetrical Flaps
No Flap Landing

3. Emergency System Procedures.

Engine Failure on Take Off
Engine Shutdown
Engine Fire/Overheat
Wheel Well Fire
APU Fire
Rapid Depressurization
Emergency Descent
Electrical Smoke and/or Fire
Runaway Stabilizer
Emergency Evaluation

C. COMPLETION STANDARDS: The student will have successfully completed the lesson when, by knowledge test and flying ability, he or she displays proficiency in all of the items.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

7. SIMULATOR PERIOD 5.

A. OBJECTIVE: During this lesson, the instructor will review the performance problem and maneuvers that will be covered in the simulator for this period. The instructor will create a lesson plan around the students past performance to insure emphasis is placed on the students weakest areas in preparation for the practical test. The student should be able to demonstrate proficiency in all items.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

1. Maneuvers.

Taxi
Rejected Takeoff
Normal Takeoff (Including MX ceiling of 100', in Icing Conditions)
Cross Wind Take Off
Area Departure
Air Work (Stalls, Steep Turns)
Emergency Descent
Area Arrival & Holding
Single Engine Approaches
Visual Approach
ILS
Localizer or Back Course
VOR Approach
ADF Approach
Circling Approach
Missed Approach
Two Engine Missed Approach
Touch and Go
Cross Wind Landing
Single Engine Landing
Ground Proximity Warning System
Taxi-in & Parking

2. Abnormal System Procedures.

Start Malfunctions
Asymmetrical Flaps
No Flaps

3. Emergency System Procedures.

Engine Failure on Takeoff
Engine Shutdown
Engine Fire/Overheat
Wheel Well Fire
APU Fire
Rapid Depressurization
Emergency Descent
Manual Reversion Landing
Engine Relight Procedure
Electrical Smoke and/or Fire
Runaway Stabilizer
Emergency Evacuation

C. COMPLETION STANDARDS: The student will have successfully completed the lesson when, by knowledge test and flight performance, he or she displays proficiency in all of the items above. The instructor will recommend the student for the practical test. In accordance with 14 CFR.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

8. SIMULATOR PERIOD 6. LOFT.

A. OBJECTIVE: B-727 LOFT provides training that facilitates the transition from flight simulator training to operational flying. Scenarios are designed to represent typical flight segments. The LOFT is instructional in nature; therefore when it is essential to do so, instructors may momentarily interrupt a scenario for instructional purposes. LOFT requires a complete crew, when two applicants are paired together both will receive 4:00 hours credit for the LOFT. If the applicant is being trained alone, only the PAC time will be credited. In the pre-brief, the instructor will review the performance problem and the element of the LOFT. During the LOFT, the first two hours will consist of a normal flight, and the second two hours will have an abnormal portion.

B. METHODS AND MATERIALS: A level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR, Part 61.

Leg #1 Normal Flight.

Briefing
Cockpit Setup
Checklists
Taxi
Normal takeoff in Icing Conditions
Cross Wind Take Off
Area Departure
Cruise
Area Arrival & Holding
ILS
Cross Wind Landing
Landing
Taxi-In & Parking
Transit Shutdown

Leg #2 Abnormal Flight.

Briefing
Transit Cockpit Setup
Takeoff
Climb
Area Departure
Cruise
Abnormal Operation
(one of the following)

- Pressurization Problem
- Failed AC Bus
- Potential Hot Start
- Adverse Weather Conditions
- Last Minute Runway Change
- Passenger Medical Problem
- Air Ground Safety Switch

Area Arrival & Holding
ILS
Landing
Taxi-In & Parking
Debriefing (Including CRM)

C. COMPLETION STANDARDS: The student will have successfully completed the lesson when, the student demonstrated, he or she has a working knowledge of the items above in a simulated line operational environment.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

9. SIMULATOR PERIOD 7. Evaluation In Accordance With The PTS.

A. OBJECTIVE: FAA practical test in accordance with part 61 of federal air regulations and the Airline transport Pilot and/or B-727 Type Rating Practical Test Standards.

B. METHODS AND MATERIALS: A Level "C" or "D" simulator appropriately qualified and approved by the FAA for the requirements of 14 CFR part 61.

(1) Preflight Preparation
- Equipment Examination
- Performance and Limitations

(2) Preflight Procedures
- Preflight Inspection

(3) Ground Operations
- Powerplant Start
- Taxiing
- Pre Takeoff Checks

(4) Takeoff and Departure Maneuvers
- Normal and Crosswind Takeoff
- Instrument Takeoff
- Powerplant Failure During Takeoff
- Rejected Takeoff
- Instrument Departure

(5) In-flight Maneuvers
- Steep Turns
- Approaches to Stalls
- Powerplant Failure
- Specific Flight Characteristics

(6) Instrument Procedures
- Instrument Arrival
- Holding
- Precision Instrument Approaches
- Non-Precision Instrument Approaches
- Circling Approach
- Missed Approach

(7) Landing and Approaches to Landings
- Normal and Crosswind Approaches and Landings
- Landing from a Precision Approach
- Approach and Landing with a Two Powerplant Failures
- Landing from a Circling Approach
- Rejected Landing
- Landing from a Zero or Nonstandard Flap Approach

(8) Normal and Abnormal Procedures

(9) Emergency Procedures

(10) Post-flight Procedures
- After Landing
- Parking and Securing

C. COMPLETION STANDARDS: The student successfully demonstrating performance of the tasks as directed by the examining official. Successful completion will be passing a simulator evaluation under Part 61, and the issuance of a Type Rating in the B-727.

FIGURE 150-1
SAMPLE CORE CURRICULUM -- Continued

Table 4:

Practical Test Standards Cross Reference	Curriculum Segment	Module #
Equipment Knowledge:		
Equipment Examination	Ground	All
Performance & Limitations	Ground	All
Preflight Procedures:		
Preflight Inspection	Ground	18
Ground Operations:		
Powerplant Start	Flight	All
Taxiing	Flight	All
Pre-takeoff Checks	Flight	All
Takeoff & Departure Maneuvers:		
Normal & Crosswind Takeoff	Flight	All
Instrument Takeoff	Flight	All
Power Failure During Takeoff	Flight	3, 4, 5, 7
Rejected Takeoff	Flight	3, 4, 5, 7
Instrument Departure	Flight	All
Inflight Departure Maneuvers:		
Steep Turns	Flight	1, 4, 5, 7
Approaches To Stalls	Flight	1, 4, 5, 7
Powerplant Failure	Flight	2, 3, 4, 5, 7
Specific Flight Characteristics	Flight	2, 5, 7
Instrument Procedures:		
Instrument Arrivals	Flight	All
Holding	Flight	3, 5, 7
Precision Instrument Approaches	Flight	All
Non-Precision Instrument Approaches	Flight	2, 3, 4, 5, 7
Circling Approach	Flight	3, 4, 5, 7
Missed Approach	Flight	1, 3, 4, 5, 7
Landing/Approaches To Landing:		
Normal/Crosswind App./Landings	Flight	All
Landing From A Precision Approach	Flight	2, 3, 4, 5, 7
Approach/Landing With Simulated Powerplant Failure	Flight	3, 4, 5, 7
Landing From a Circling Approach	Flight	3, 7
Rejected Landing	Flight	4, 7
Landing From A Zero or Nonstandard Flap Approach	Flight	2, 7
Abnormal Procedures	Flight	All
Emergency Procedures	Flight	2, 3, 4, 5, 7
Post-Flight Procedures:		
After Landing	Flight	All
Parking and Securing	Flight	All

FIGURE 150-2
CURRICULUM MANEUVERS COMPANION JOB AID

Course: **Lesson:** **Date:**

Maneuvers	Curriculum	Lesson Plan	Notes
Performance-Limitations- Weight/Balance			
Preflight Inspection			
Powerplant Start			
Taxiing			
Pre-takeoff Checks			
Normal / Crosswind Takeoff			
Instrument Takeoff 1/4 max vis or OpSpecs			
Powerplant Failure during takeoff			
Rejected Takeoff			
Instrument Departure			
Steep Turns			
Stalls - takeoff configuration			
Stalls - clean configuration			
Stalls -landing configuration			
Powerplant Failure			
Instrument Arrival			
Holding			
Visual Approach			
Precision Approach			
Precision Approach - SE/Manual			
Non-precision Approach (NDB)			
Non-precision Approach (vor loc lda sdf)			
Non-precision Approach (loc - bc)			
Non-precision Approach-SE			

FIGURE 150-2
CURRICULUM MANEUVERS COMPANION JOB AID -- Continued

Non-precision Approach- Published			
Circling Approach			
Missed Approach - ILS			
Missed Approach - NP			
Missed Approach - SE			
Missed Approach - Published			
Normal / Crosswind Approach and Landing			
Landing - Precision Approach			
Landing - Non-precision Approach			
Landing - SE			
Landing - Circling			
Rejected Landing			
Landing - O flaps			
Normal/Abnormal Procedures			
Specific Flight Characteristics			
Unusual Attitudes			
Emergency Procedures: • Emergency descent/rapid decompress • Emergency evacuation • In-flight fire/smoke • Other			
After Landing			
Park / Secure			

FIGURE 150-2
CURRICULUM MANEUVERS COMPANION JOB AID -- Continued

Systems Operation - Normal, Abnormal, Emergency

Pneumatics / Pressurization			
Air Conditioning			
Fuel			
Electrical			
Powerplant / Props			
Flight Controls			
Anti-Ice / Deice			
Auto Pilot			
Stall Warning			
Comm / Nav			
Hydraulic			
Landing Gear / Brakes			
Fire / Smoke			
Flight Instruments			

FIGURE 150-3
USE OF PICTORIAL SYSTEM FOR PREFLIGHT INSPECTION TRAINING AND CHECKING

A. CHARACTERISTICS.

(1) The FAA must approve each pictorial system in its entirety.

(2) The following are desirable characteristics:

(a) A sufficient number of pictures to portray the location and detail of preflight inspection items.

(b) Capability for random, rapid access to any picture.

(c) Still and motion pictures.

(d) Distant and close-up pictures.

(e) Pictures of each passenger compartment and each preflight inspection item.

(f) Depictions of normal and abnormal conditions.

(g) Sequence of pictures should match the flow of the actual preflight inspection.

(3) Specific Characteristics. Experience has shown that the following specific characteristics are appropriate. Inspectors should determine that these characteristics are included:

(a) Enough pictures should be maintained to permit coverage of a variety of preflight items in practical tests.

(b) The aircraft should be shown in a typical prior-to-flight condition, which may include support people and equipment which are associated with flight preparation, such as fueling, cleaning, and catering.

(c) Nothing should obstruct the view of the preflight item (jetways, fuel trucks, work stands, etc.).

(d) The same aircraft, or identical aircraft, should be pictured throughout the pictorial series; in some cases use of non-identical aircraft may be justified to depict differences.

(e) Text and voice should match each picture.

(f) Pictorial systems used for testing should be of high quality, including projection equipment with random and rapid access capability. Examples of unacceptable quality include copy-machine copies of photographs, videotape systems without random and rapid access capability, or any other pictorial system that is markedly inferior to use of a static airplane.

(g) For testing, sets of pictures should be used which comprise some of those used in training, and additional pictures used exclusively for testing.

(h) For testing, abnormal features should not be shown in pictures intended to depict normal aircraft conditions.

(i) Unless an abnormal condition is intentionally depicted for testing, the following guidelines shall apply:

FIGURE 150-3

USE OF PICTORIAL SYSTEM FOR PREFLIGHT INSPECTION TRAINING AND CHECKING -- Continued

i. All permanent parts, such as windows and doors, windshield wipers, and antennas, should be in place and in normal condition.

ii. All removable parts, such as engine cowls and access panels, should be in place and in normal condition; engine inlets should be shown with covers removed.

iii. Wheel well doors, flaps, slats and aerodynamic surfaces and other devices should be in the normal on-ground, prior-to-flight configuration.

iv. People and equipment associated with assembly or maintenance work should not be pictured.

(j) For testing, enough pictures of abnormal conditions should be maintained to permit comprehensive coverage, particularly of those abnormal conditions which are likely to be encountered during preflight inspection and those which are potentially unsafe.

(k) For testing, aircraft should be pictured which are typical or representative of the specific aircraft on which the pilot certification is to be conducted. For example, slides of a B-737-300 should not be used for a certificate applicant trained under a B-737-200 curriculum; and vice versa.

(4) Standard References. The FAA-approved preflight procedures contained in the manufacturer's aircraft flight manual, or in the air carrier's aircraft flight manual, are the standard references for the preflight visual inspection. Those manuals detail the essential preflight items and the sequence in which those items should be inspected.

(5) Strategy and Courseware. When using pictorial means, for optimum effectiveness, the courseware should be used differently in training and in testing. In general, static pictorial displays (pamphlets, murals, etc.), videotape, and interactive computer-based instruction (CBI) systems work well in training. On the other hand, slides work well in testing. Similarly, when using pictorial means the training strategy is different from the testing strategy. In general, during training the trainee should view preflight items in normal configurations. This method conveys positive imprinting to a trainee, and it is the same method followed when a static airplane is used. (However, it is beneficial to discuss abnormal conditions in training). On the other hand, during testing abnormal conditions should be introduced in a sufficient number to permit a reliable evaluation of the applicant's preflight ability.

B. PREFLIGHT IN-FLIGHT TRAINING USING AN ACTUAL AIRCRAFT. Experience has shown that a complete visual inspection of the exterior and the passenger compartment of an actual static airplane by the pilot, after he or she leaves the ground and simulator training sites, may be highly beneficial. This preflight visual inspection must be accomplished prior to the first operating experience flight (if operating experience is required), or prior to the first revenue flight (if operating experience is not required) by a pilot trained under these provisions. Completion of this training requirement must be documented by a company check pilot or company ground or flight instructor and retained in the student's training record.

FIGURE 150-4
CELLOPHONE AIRLINES: TRAINING MANUAL - LIST OF EFFECTIVE PAGES

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List of Effective Pages		
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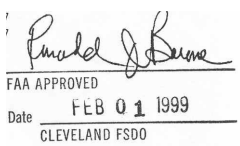
2-8	#1	1/22/99
2-9	#1	1/22/99
2-10	Original	1/03/97
2-11	Original	1/03/97
2-12	Original	1/03/97
2-13	Original	1/03/97



Date: 01/22/99 Revision: #1

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